



Product Development 97-0011

September, 1998

All-American Shouldering Disc

Description:

In 1996, the Missouri Department of Transportation (MoDOT) purchased two All-American Shouldering Discs for District 4. In 1997, four All-American Shouldering Discs were purchased for District 2. This piece of equipment is used to reduce edge drop-offs and improve shoulder slopes in the spring and fall of the year when the soil is moist. They are attached to a large tractor with a 55 PTO horsepower minimum.

Advantages/Disadvantages:

The All-American Disc will remove the berm from the point of the shoulder that hinders water drainage and grind sod into small pieces. The disc eliminates the problem of your Motorgrader bringing large chunks of trashy sod up and onto the roadway. It is estimated, at least 50 cubic yards of material is reclaimed per mile. This practice will reduce edge drop-off and improve shoulder cross slopes, which will reduce tort liability. It is six times faster than the conventional Motorgrader usage, making it more cost effective and provide a wider coverage of service.

The disadvantages of the All American Disc is that it requires a larger tractor of which there are only a limited number and its use is only seasonal, spring and fall.

Cost:

A cost analysis has been calculated for the all-American Disc and compared to the Motorgrader.

*The cost per day using the All-American Disc is \$527.24. The cost per day for using Motorgraders is \$551.14 (the major saving is found in cost per mile).

*The average accomplishment for the All-American Disc is 30 miles compared to 5 miles for the Motorgrader.

*The cost per linear mile for the Disc method is \$16.69 compared to the cost of \$104.21 using the Motorgrader method, which translates into a savings of \$87.52 per mile utilizing the All-American Disc.

Conclusions:

The All-American Disc is a tool that will allow you to eliminate all edge drop-offs on soil or aggregate shoulders in the spring and fall of each year. This will be cost effective and will reduce tort liability which MoDOT may be exposed to. Details of the report and equipment specifications are now available.

Contact:

Ivan Corp
Missouri Department of Transportation
Phone: 816-889-6403
Email: corpi@mail.modot.state.mo.us

Don Davidson
Missouri Department of Transportation
Phone: 573-751-4620
Email: davidd1@mail.modot.state.mo.us